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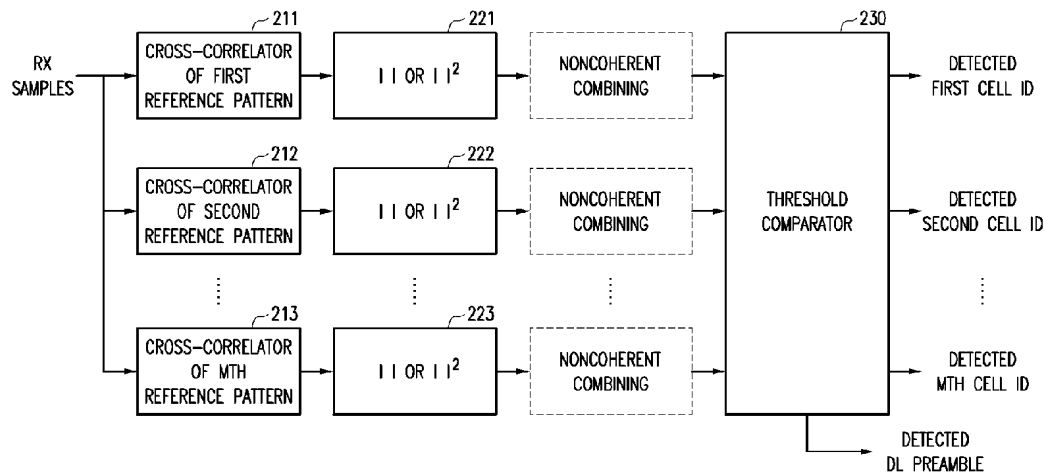
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(54) Title: METHOD FOR CONSTRUCTING FRAME PREAMBLE IN OFDM WIRELESS COMMUNICATION SYSTEM, AND METHOD FOR ACQUIRING FRAME SYNCHRONIZATION AND SEARCHING CELLS USING PREAMBLE



(57) Abstract: Disclosed are a method for constructing a frame preamble in an OFDM wireless communication system, and a method for acquiring frame synchronization and searching cells using the preamble. The preamble is arranged at the beginning of a frame and constructed of a pattern repeated an integer number of times, and a CP. The pattern has a length shorter than a single OFDM symbol interval. The length of the repetitive pattern is not limited to an integer number of times a single OFDM symbol interval. Frame synchronization can be acquired by observing cross-correlation of a received signal and reference patterns and detecting the moment when the absolute value of the cross-correlation exceeds a predetermined threshold. Otherwise, frame synchronization can be acquired by observing auto-correlation of the received signal using repeated patterns included in the received signal and detecting the moment when the absolute value of the auto-correlation becomes the maximum value.

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